

AMENDMENT TO THE CLAIMS

A complete listing of the claims is as follows:

Claims 1 - 23. (*Canceled*)

Claim 24. (*New*) A method of enlarging an image field of a focal plane array camera, the image field consisting of N pixels, by combining scanned partial images, each partial image consisting of n pixels, said method comprising:

forming an astroid-shaped cycloid scan pattern by means of at least two continuously rotating refractive prisms;

said astroid-shaped cycloid scan pattern includes a number of vertexes corresponding to points of reversal of scan movement and corresponding to a number of partial images;

respective ones of said partial images are generated during reversal of movement at said vertexes of said astroid-shaped scan pattern during said forming of said astroid-shaped cycloid scan pattern;

each of said partial images is generated, during said reversal of movement at said vertexes of said astroid-shaped scan pattern, for a predeterminate recording time to limit unsharpness to less than a size of a pixel.

Claim 25. (*New*) The method according to claim 24, wherein:

each of the points of reversal occurs substantially in a midpoint of a recording time of the individual images.

Claim 26. (*New*) The method according to claim 24, wherein:

said astroid-shaped cycloid scan pattern is formed with four vertexes by generating and combining four partial images.

Claim 27. (*New*) The method according to claim 24, wherein:

said astroid-shaped cycloid scan pattern is formed with four vertexes by generating and combining four partial images, said combined four partial images having overlapping regions.

Claim 28. (*New*) The method according to claim 27, further comprising:

projecting at least one alignment mark into a region of overlap of individual ones of the partial images;

measuring a shift between partial images by an image processor; and

assembling the partial images based on the measured shift to form a combined image.

Claim 29. (*New*) The method according to claim 28, wherein:

said projecting of the at least one alignment mark is limited to a few scanning cycles.

Claim 30. (*New*) The method according to claim 28, wherein:

said projecting of the at least one alignment mark comprises permanently projecting the at least one alignment mark.

Claim 31. (*New*) The method according to claim 28, wherein:

said projecting of the at least one alignment mark comprises projecting the at least one alignment mark in one or more edge regions of overlap of the individual images.

Claim 32. (*New*) The method according to claim 28, wherein:

said projecting of the at least one alignment mark comprises projecting an alignment mark in a central area of overlap of the combined image.

Claim 33. (*New*) The method according to claim 24, wherein:

during said recording time, unsharpness occurs along pixel diagonals, thereby containing unsharpness to within a pixel.